APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,008	05/10/2001	Mahesh Girkar	50277-1003	4137

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EXAMINER
LE, DEBBIE M

ART UNIT	PAPER NUMBER
2177	4

DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.		Applicant(s)
Office Action Summary	09/852,008		GIRKAR ET AL.
	Examin r		Art Unit
	DEBBIE M LE		2177

-- Th MAILING DATE of this communication app ars on the cover sh t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 December 2003_.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-16_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-16_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

     1.☐ Certified copies of the priority documents have been received.

     2.☐ Certified copies of the priority documents have been received in Application No. _____.

     3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 4

DETAILED ACTION

Response to Amendment

Applicants' arguments filed on 12/30/03. Claims 1-16 are presented for

examinations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Claims 1-6, 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Rastogi (US Patent 6,205449 B1) in view of Copper et al (US Patent 6,079,000).

As per claim 1, Rastogi et al discloses a system for allowing a secondary database operate as a hot spare for a primary database comprising:

maintaining a buffer of transactions to be sent to a standby database system (col. 2, lines 30-35); and

synchronizing a transaction performed on the primary database system based on a number of transactions in the buffer (col. 8, lines 3-8).

Rastogi does not explicitly teach a predetermined number of transactions. However, Cooper teaches at col. 12, lines 30-43 that "*determine when a sufficient number of transactions have been accumulated*". Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to implement the step of setting a predetermined number of transactions because it would allow a system efficient transferring data (col. 2, lines 25-32).

As per claim 2, Rastogi teaches wherein the step of synchronizing includes the step of blocking a commit of the transaction until the number of transactions in the buffers is in a predetermined numerical relationship with the predetermined number of transactions (col. 8, lines 15-23).

As per claim 3, Rastogi teaches wherein the predetermined numerical relationship is less than (col. 8).

As per claim 4, Rastogi teaches executing a log writer process to record the transaction in a redo log (col. 2, lines 30-32, col. 8, lines 24-36).

As per claim 5, Rastogi teaches wherein: the log writer process performs the step of synchronizing (col. 8, lines 37-44).

As per claim 6, Rastogi teaches wherein: a database application process performs the step of synchronizing before submitting the transaction to the log writer process (col. 8, lines 3-23).

As per claim 8, Cooper teaches the steps of receiving input from an operator indicating a transaction loss bound; and setting the predetermined number of transactions based on the transaction loss bound (col. 12, lines 30-42).

Claim 10 is rejected under the same rationale as state in claim 1.

Claims 7, 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rastogi (US Patent 6,205449 B1) in view of Copper et al (US Patent 6,079,000), and further in view of Hapner.

As per claim 7, Rastogi teaches the step of executing a net server process to transmit the transaction over a network connection to the standby database system (col. 3, lines 19-22), receive an acknowledgment that a redo record for the transaction has been written to a standby log at the standby database system (col. 3, lines 54-57, col. 4, lines 3-23).

Rastogi and Cooper do not explicitly teach remove the transaction from the buffer in response to the acknowledgment. However, Hapner teaches a transaction counter to perform the step of incrementing and decrementing of (fig. 4, col. 3, lines 42-67, col. 4, lines 1-4, col. 14, lines 48-67, col. 15, lines 1-23). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the

teachings of the cited references in order to allow the system to perform a transaction

synchronization in an effective and efficient manner (Hapner, col. 3, line 15).

As per claim 9, Rastogi and Cooper do explicitly teach wherein the step of

synchronizing includes the steps:

storing a counter indicating a number of the transactions in the buffer; when

adding the transaction to the buffer, incrementing the counter; when removing the

transaction from the buffer, decrementing the counter; blocking a commit of the

transaction when the counter is not less than the predetermined number of transactions;

and acknowledging the commit of the transaction when the counter is less than the

predetermined number of transactions. However, Hapner teaches the functioning of a

counter (fig. 4, col. 3, lines 42-67, col. 4, lines 1-4, col. 14, lines 48-67, col. 15, lines 1-

23). Thus, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teachings of the cited references in order to allow

the system to perform a transaction synchronization an efficiently manner (Hapner, col.

3, line 15).

As per claim 11, Rastogi teaches

maintaining a queue of transactions to be sent to a standby database system

(col. 2, lines 30-35);

executing a log writer process to: record the transaction in a redo log (col. 2, lines

30-32, col. 8, lines 24-36); and

executing a net server process to: transmit the transaction over a network

connection to the standby database system (col. 3, lines 19-22), receive an

acknowledgment that a redo record for the transaction has been written to a standby log at the standby database system, and in response to the acknowledgment (col. 3, lines 54-57, col. 4, lines 3-23).

Rastogi does not explicitly teach storing a predetermined bound of transactions. However, Cooper teaches at col. 12, lines 30-43). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to implement the step of setting a predetermined number of transactions because it would allow a system efficient transferring data.

Rastogi and Cooper do not explicitly teach storing a counter indicating a number of the transactions in the queue, compare the counter and the predetermined bound, if the counter is not less than the predetermined bound, then block a commit of the transaction until the counter is less than the predetermined bound, and if the counter is less than the predetermined bound, then increment the counter and acknowledge the commit of the transaction; remove the transaction from the queue and decrement the counter. However, Hapner teaches the functioning of a counter (fig. 4, col. 3, lines 42-67, col. 4, lines 1-4, col. 14, lines 48-67, col. 15, lines 1-23). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references in order to allow the system to perform a transaction synchronization an efficiently manner (Hapner, col. 3, line 15).

As per claim 12, Rastogi teaches recording a transaction in a redo log (col. 2, lines 30-32, col. 8, lines 24-36);

Rastogi does not explicitly teach a predetermined bound of transactions.

However, Cooper teaches at (col. 12, lines 30-43). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to implement the step of setting a predetermined number of transactions because it would allow a system efficient transferring data.

Rastogi and Cooper do not explicitly teach comparing a counter indicating a number of the transactions in a queue of transactions to be sent to a standby database system; if the counter is not less than the predetermined bound, then blocking a commit of the transaction until the counter is less than the predetermined bound, and if the counter is less than the predetermined bound, then incrementing the counter and acknowledging the commit of the transaction. However, Hapner teaches the functioning of a counter (fig. 4, col. 3, lines 42-67, col. 4, lines 1-4, col. 14, lines 48-67, col. 15, lines 1-23). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references in order to allow the system to perform a transaction synchronization an efficiently manner (Hapner, col. 3, line 15).

Claim 13 is rejected under the same rationale as state in claim 12.

Claims 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rastogi (US Patent 6,205449 B1) in view of Hapner et al (US Patent 5,940,827).

As per claim 14, Rastogi teaches

accessing a transaction maintained in a buffer of transactions to be sent to a

standby database system (col. 2, lines 30-35); transmitting the transaction over a

network connection to the standby database system (col. 3, lines 19-22);

receiving an acknowledgment that a redo record for the transaction has been

written to a standby log at the standby database system (col. 3, lines 54-57, col. 4, lines

3-23)

Rastogi does not explicitly teach in response to the acknowledgment, removing

the transaction from the queue and decrementing the counter. However, Hapner

teaches a transaction counter to perform the step of incrementing and decrementing of

(fig. 4, col. 3, lines 42-67, col. 4, lines 1-4, col. 14, lines 48-67, col. 15, lines 1-23).

Thus, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teachings of the cited references in order to allow

the system to perform a transaction synchronization an efficiently manner (Hapner, col.

3, line 15).

Claim 15 is rejected under the same rationale as state in claim 14.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rastogi

et al (US Patent 6,205,449 B1) in view of Copper et al (US Patent 6,079,000) and

further in view of Nilsen et al (US Patent 5,668,986).

As per claim 16, Rastogi teaches

performing the steps of maintaining a buffer of transactions to be sent to a

standby database system (col. 2, lines 30-35); and synchronizing a transaction

performed on the primary database system based on a number of transactions in the

buffer (col. 8, lines 3-8) and the corresponding bound. Rastogi further teaches the system is run in parallel (col. 3, lines 10-14).

Rastogi does not explicitly teach setting a bound for each of the multiple database servers. However, Cooper teaches at (col. 12, lines 30-43). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to implement the step of setting a predetermined number of transactions because it would allow a system efficient transferring data.

Rastogi and Cooper do not teach having multiple database servers operating in parallel and accessing a common database on a shared disk. However, Nilsen et al teaches multiple database servers (fig. 2). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to implement the system having multiple database servers in order to speed up processing of transactions.

Response to Arguments

Applicant's arguments filed 12/30/03 have been fully considered but they are not persuasive.

Applicants argued that the rejection to the claims 10, 13 and 15 are improper because claims 10, 13 and 15 recite a "computer-readable medium" which is an article of manufacture, not an apparatus or a method.

In response, the examiner respectfully disagrees. The examiner submits that the

section on the MPEP upon which applicant relies does not in any way shape or form

allow the combination of an article of manufacture and a method. The fact remains that

the proposed incorporation of the article of manufacture as recited in dependent claims

10, 13, and 15 improperly depends on the method of independent claims. Under

section 35 U.S.C 112, it is improper to combine claims from different statutory groups.

It is difficult to ascertain the scope of such claims.

Applicants argued that Cooper et al (US Patent 6,079,000) does not teach

predetermined number of transactions.

In response, the examiner respectfully disagrees. Cooper does teach

predetermined number of transactions which equivalent to "*determine when a sufficient

number of transactions have been accumulated in audit host memory 342*" (col. 12,

lines). Furthermore, Cooper teaches that "*The optimal transfer efficiency may also

correspond to a predetermined number of audit trail entries having been accumulated

within XPC cache area 350*" (col. 14, lines 41-43). From the above passages, it is clear

that Cooper does teach the claimed language "predetermined number of transactions".

Applicants argued that dependent claims 7 and 9, 11-16, the use of the non-

analogous Hapner et al does not support the rejection because Hapner lacks any

disclosure of using transaction counter for any set of transaction to be sent to a standby

database system.

In response, the examiner respectfully disagrees. Hapner is a analogous art

because Hapner does use transaction counter in the field of synchronizing the different

data write operations (col. 3, line 15). It would be understood that the phrase

"synchronize the different data" is there is at least two different need to be compared

(before and after transferring the data to the) (figure. 4, # 160 "database cache" and

164 "persistent database", col. 9, lines 36-39). From the above passages, Hapner

does apply a transaction counter in a replicating data.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to DEBBIE M LE whose telephone number is 703-308-

6409. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, JOHN BREENE can be reached on 703-305-9790. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

DEBBIE M LE
Examiner
Art Unit 2177

Debbie Le

March. 10, 2004.

GRETA ROBINSON
PRIMARY EXAMINER